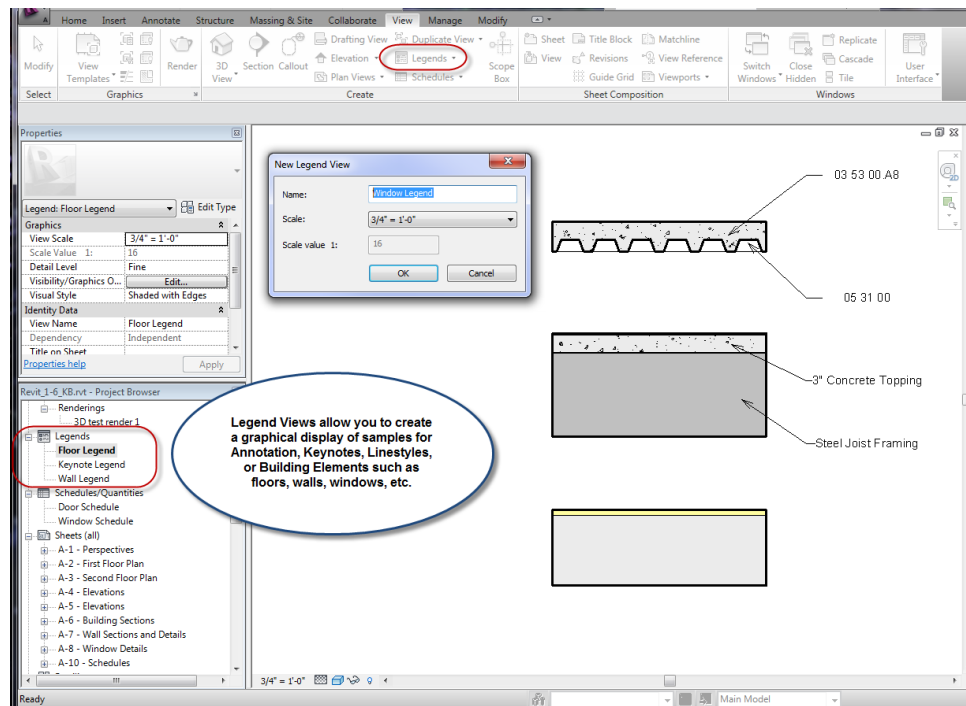


AGENDA:

1. Legend Views
2. Tags
3. Keynotes

1. Legend Views

Legend Views allow you to create a graphical display showing samples of any of the building elements being used in a Project. Wall Samples or Floor Samples may be defined in section complete with notes and leaders identifying the individual components within the assembly.

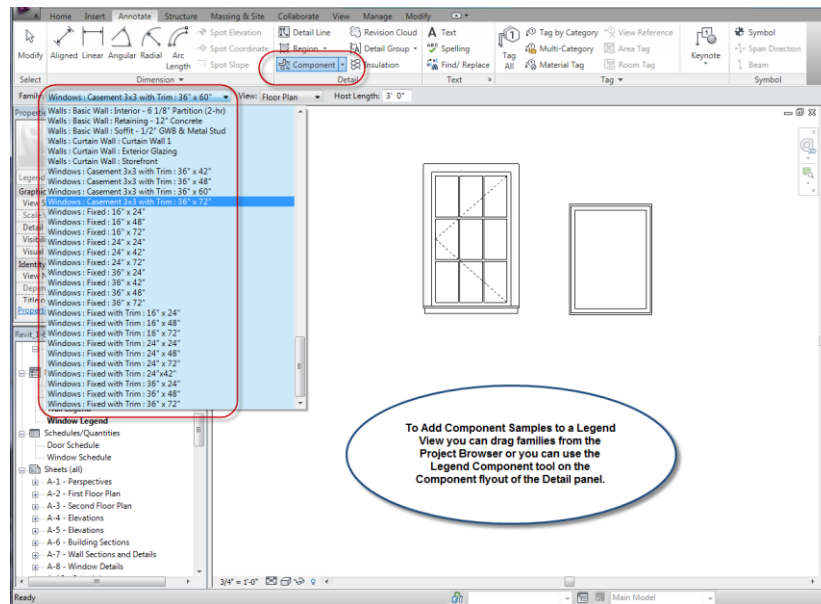


Legends are also used to show samples of Annotations such as section heads, level markers, elevation symbols, tag symbols, and any other object that does not represent a physical model element in the project.

Linestyle legends may be created to show samples of non-continuous linetypes being used in the project for lines such as Property Lines, Overhead Lines, Fire Rating lines, and Utility lines.

To create a Legend, first define a new Legend view from the Create panel on the View tab. Specify a name for the Legend view as well as a scale and then set the desired detail level and shading style. Any of these initial settings can be easily modified through the View properties.

To add components to a Legend view, you can expand the Family categories in the Project Browser and then drag a family type into the view and pick an insertion point. This method will work for Annotation family types as well as Model family types.



You can also place Model component samples by using the Legend Component tool on the Component flyout of the Annotate tab's Detail panel. When the place legend component tool is active, you can select a component type from the Family pulldown on the Options bar.

Model components often have several view specific representations which can be selected from the View pulldown on the Options bar. This allows you to show a wall sample in either a plan view direction or in a section view direction. Doors and Windows use a Floor Plan view as well as Front Elevations and Back Elevations.

Some model types such as Floors and Walls allow you to specify the length of the sample by specifying a "Host Length" value on the options bar. Individual model legend components also include a detail level parameter which defaults to "From View" but may be set explicitly.

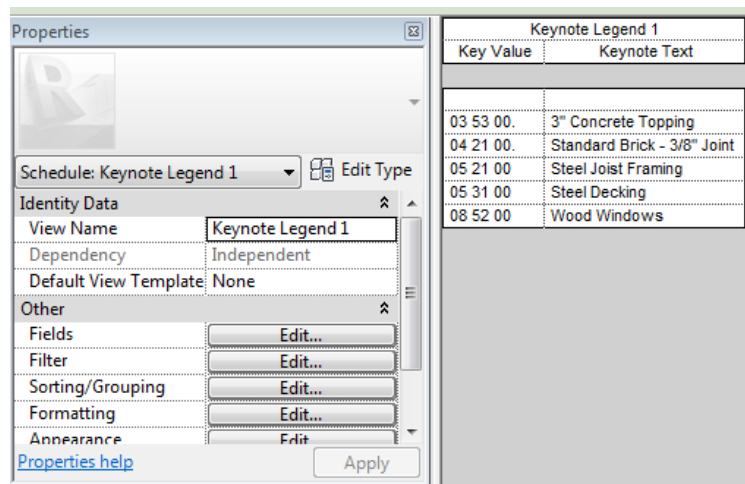
You can add notes to your legend component samples with the Text tool or with the Material Keynote tool. Any elements that can be placed in Drafting views, such as filled regions, insulation, detail lines, etc, can also be placed in a Legend view.

It is possible to add dimensions to individual legend components unless the component belongs to a system family such as a Wall, Floor, or Ceiling. Component Family types such as Doors, Windows, Furniture, etc. can be dimensioned with standard dimension tools.

Annotation symbols are always 2D and do not support view directions or host lengths. They may be dragged into a Legend View from the Project Browser, or the symbols may added to a legend view with the Symbol tool on the Symbol panel of the Annotate tab. Start the tool and then choose a symbol type with the Type Selector in the properties palette. Pick a point to add the symbol.

Line Style Legends are defined by creating a new legend view and then using the Detail Lines tool to draw a series of lines with different linetypes. Add text to describe each linetype and place it adjacent to the sample line segment.

The Legend flyout includes an option to create a Keynote Legend. Keynote Legends will create a schedule type table view showing a list of all Key Values and their corresponding Keynote text.

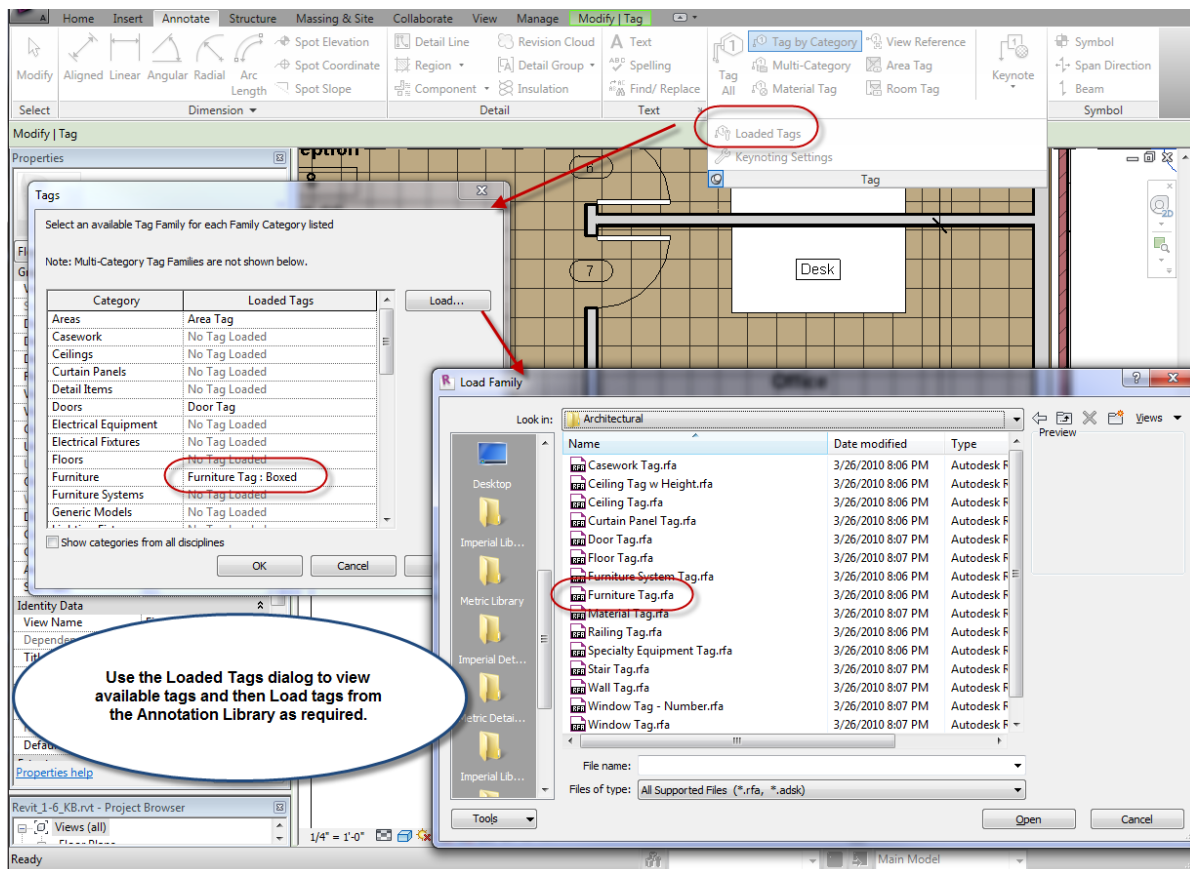


Keynote Legends include the same set of five options for controlling properties as is found in the Schedule Properties dialog. Only two fields are available for filtering and grouping but you can still access the Formatting and Appearance settings to control the appearance of the Legend when it is added to a sheet.

A single Legend View can be place on multiple sheets. When a component is placed in a Legend view it does not count as an actual instance of that building element and it will not be scheduled.

2. Tags

Tags are text labels for elements such as doors, windows, rooms, etc. Tags are intelligent, bidirectional symbols that display information stored in the element properties. Typically, this information will display the identifying “Mark” parameter for a door or a window but other parameter values such as a Room Name, Room Number, or floor area may also be associated with the Tag.

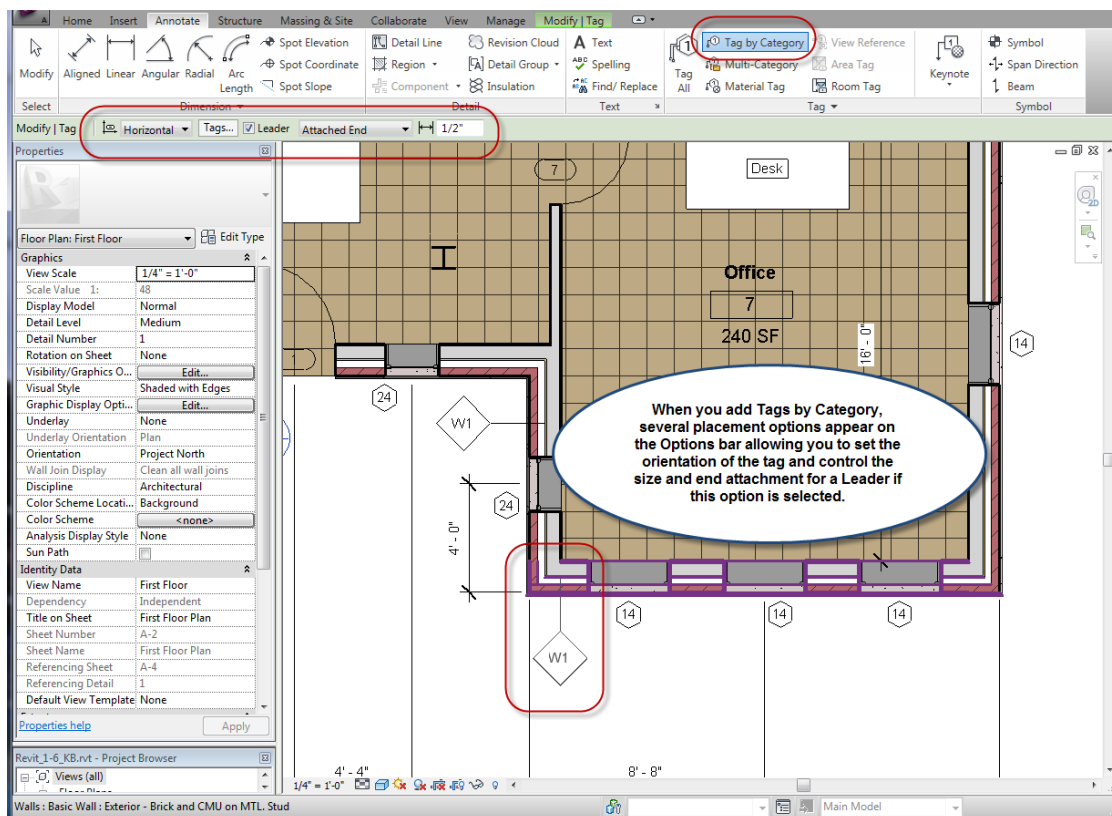


Every category in the Family Library has its own tag which may be added to an element with the Tag tool. Some tags such as Room tags, Window tags, Door tags, and Wall tags are loaded automatically with the default Revit Architecture template. Others such as plumbing fixture tags and Furniture tags will need to be loaded from the Annotation category in the family library.

The Loaded Tags tool on the Advanced section of the Tags panel will allow you to view available tags and Load new tags for any categories you wish to tag that do not already have a Tag Loaded.

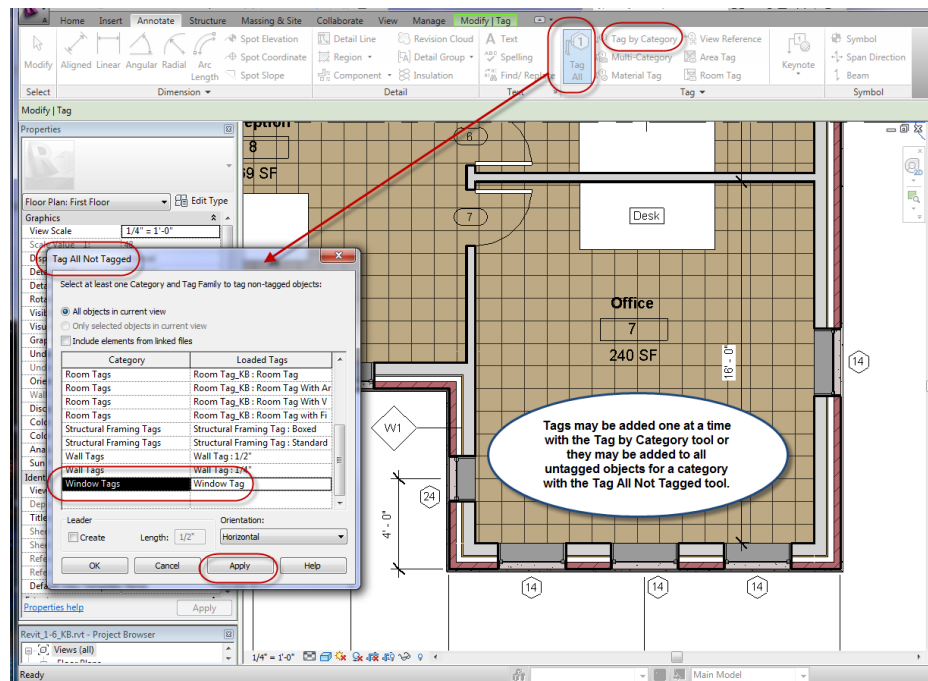
Some Objects such as Doors, Windows, and Plumbing fixtures, include a Tag on Placement option which appears on the Ribbon. When enabled, this option will automatically create tags for those building elements as they are added. If a tag for that category is not already loaded, you will be prompted to load a tag family or cancel the tag placement.

Tags may be added manually, to individual objects, with the Tag by Category tool. The correct tag will automatically be selected based on the category of object you highlight. If a tag does not appear when you float your cursor over an object, the tag for that category has not been loaded but if you select the element, you will be prompted to load a tag.



As you place a tag, several settings are available on the Options bar. You can specify the orientation of the tag as Horizontal or Vertical and you can enable a Leader option. When the Leader is enabled, you can also specify the length of the leader line and choose to create the Leader with an Attached End or a Free End. A Free End will include an additional control point which can be used to reposition the tag leader's connection to the object being tagged.

A convenient method for quickly adding tags to multiple objects at one time is to use the Tag All Not Tagged tool. Open the view in which you wish to place the tags and then choose Tag All. In the Tag All Not Tagged dialog, choose the Category and a loaded tag for that category and then choose the Apply tool. The Tag All Not Tagged tool, provides Leader, Leader Length, and Orientation options. Leaders will automatically be set to use Attached Ends as the Free End method requires the user to specify the leader location points.

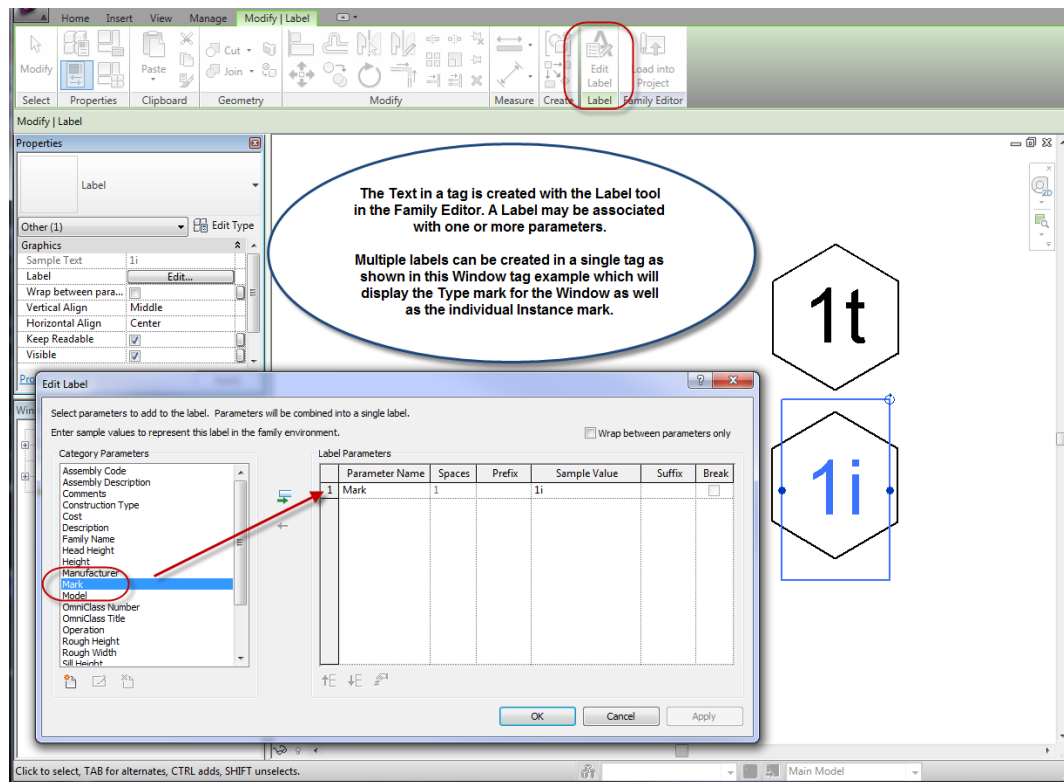


It is possible to select multiple categories by using typical CTRL select or SHIFT select methods. CTRL select lets you choose multiple entries anywhere in the list. SHIFT select will highlight all lines between the two lines you pick.

Tags may be modified by picking them and changing the Leader or Orientation options in the Instance properties. Tags with leaders may be reshaped using the control points on the leaders.

Tag values may be modified by picking and editing the tag text. If the tag is based on a Type parameter, you will be prompted to confirm that you will be applying the change to multiple instances of the selected elements. Tag values may also be modified by selecting the tagged element and then modifying the Instance or Type parameter which is associated with the tag.

When a Tag is created, labels are used to define the text which will display when the tag is placed in a project. A Label is a text placeholder which is created in the Family Editor as part of a tag or a titleblock family. The Label tool is found on the Text panel of the Home tab of the Ribbon. When you create a label, you specify an insertion point for the Label and then in the Edit Label dialog which appears, you select one or more parameters to associate with the label.



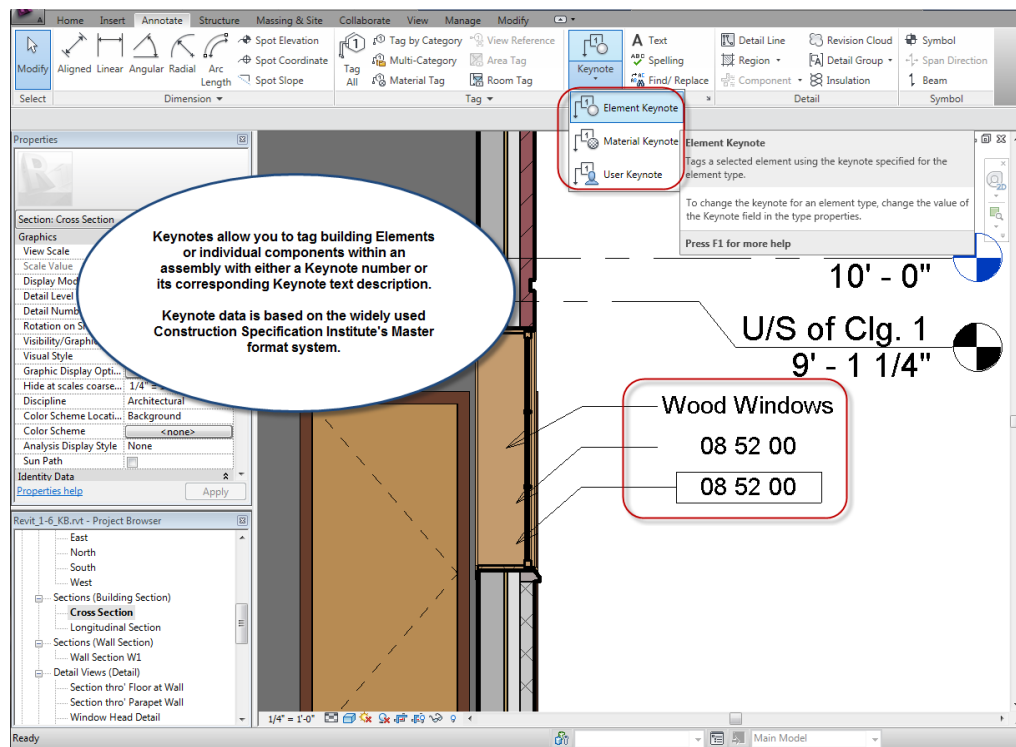
When you reference multiple parameters for a single label, you can choose their order by using the Move Up and Move Down tools in the Edit Label dialog. The Wrap and Break options let you specify which parameters will appear on a single line and which will be forced to display on separate lines.

Labels belong to a system family which includes several Type parameters to define the Graphics and Text appearance. Graphic options include Color, Lineweight, Background, Show border, and Border offsets. Text options include Font, Size, Bold, Italic, Underline, and width factor.

Label Instance properties include Alignment, Readable, and Visible options as well as a Wrap between parameters setting.

Keynotes

A keynote parameter is available for all model elements and materials. You can add Keynote tags to entire elements such as doors, windows, or walls with the Element keynote tool. Keynotes can be set to display a Keynote Number or the corresponding Keynote text description by choosing the desired format in the Type Selector. You can also choose to show a box around the keynote.

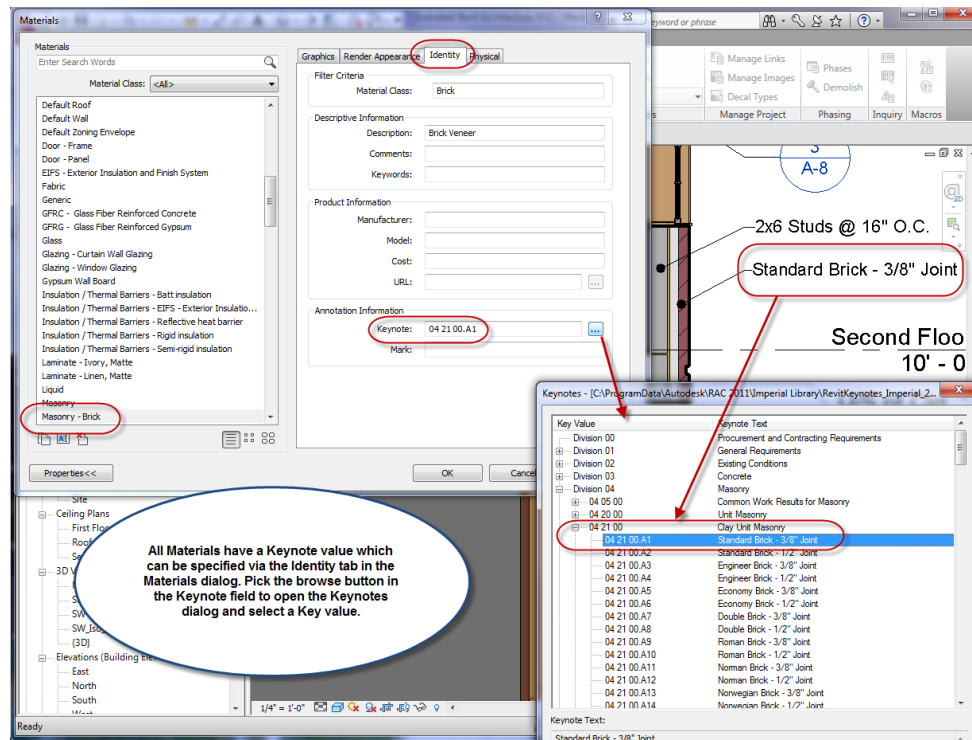


All Keynote values are derived from a standard Keynote text file based on the CSI (Construction Specifications Institute) Master format standard. This system, first developed in 1995, originally used 16 Divisions to organize construction processes and materials. A newer version, using 50 divisions, was adopted in 2004 and this is the one that is available in current releases of Revit.

All model elements have a Keynote type parameter which can be set in advance via the Type Properties dialog box. If the keynote is already assigned in the type properties, it will automatically appear when you add the keynote tag. If you add a keynote tag to an element which does not already have a keynote value assigned, a Select Keynote dialog will appear allowing you to select an appropriate note.

The Material Keynote tool lets you select individual components within an assembly such as a floor or wall section and add a note which is based on that component's material assignment. All materials include a Keynote value which may be assigned in the Identity tab of the Material dialog. The keynote field is in the Annotation Information section. Pick the browse button to open the Keynotes dialog and then expand the appropriate Division category such as Concrete, Masonry, Openings, etc. and then choose a key value.

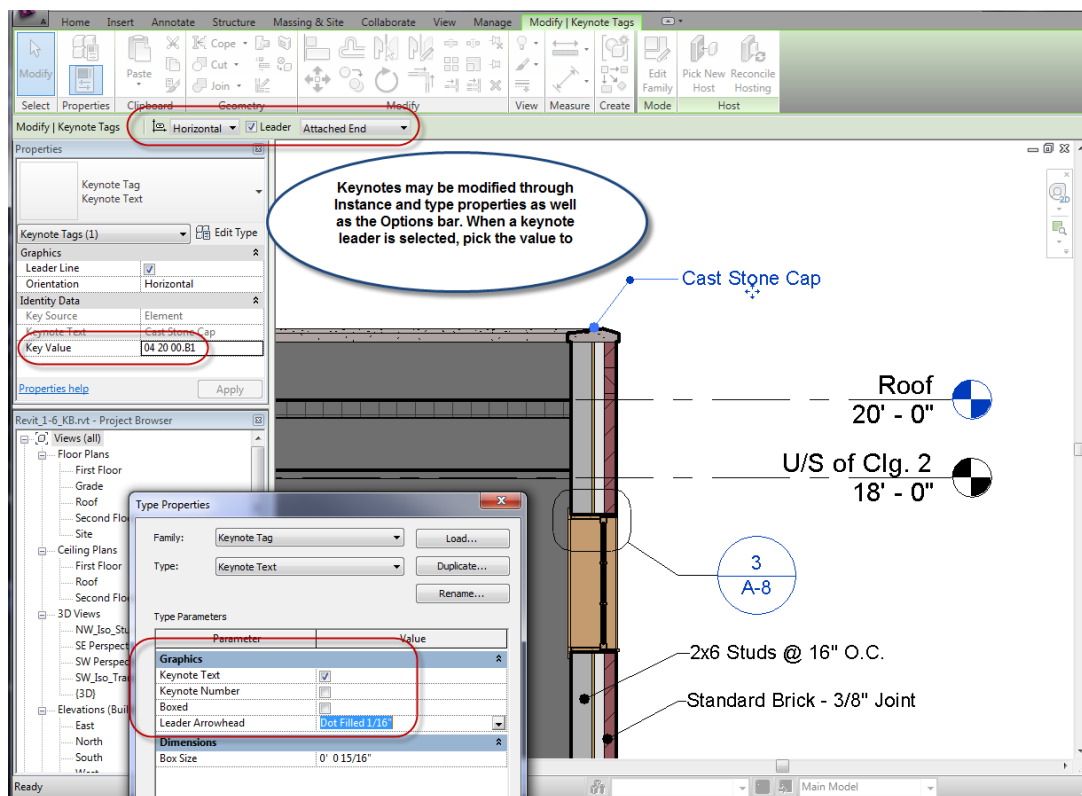
Use the material duplicate tool to create specific material types for use in different situations or alternatively, leave the keynote value at a more general heading such as Metal Windows rather than Aluminum Windows or Clay Unit Masonry rather than Roman Brick 1/2" Joint.



The Material Tag provides another option for assigning a leader note to identify a material, but instead of the value coming from the actual material identity, the material tag allows you to type in a value directly on screen. The text is linked to a shared parameter called Material Description and this parameter is linked to a Label in the family editor.

If you using the Key numbers only on the drawings, create a Keynote legend.

To modify a keynote after it has been added pick the leader. This will enable a move tool on the text or key value as well as control grips on the leader which allow you to reposition the text and reshape the leader. If you pick the value itself, the Keynotes selection dialog will open allowing you to assign a new value.



Element keynotes may have their leader set to Attached or Free End. When the end is free, the leader may be repositioned to a different element but the key value will still be linked to the original element. Use the Pick New Host tool on the Host panel of the ribbon and then select the element to which you moved the Keynote leader. If a key value has been assigned it will appear automatically. If the value is unassigned, it will display a question mark.

Material Keynotes are always created with a Free End leaders and they may be moved to point to different elements. The behavior of the key value is Dynamic for a Material keynote and as you drag the leader end over different materials, the key value will update automatically. As with the element keynotes, if a key value is unassigned for a material, the key value will display a question mark. (?)

Exercise Notes

- In the following practice exercise you will learn how to create and work with Tags, Keynotes, and Legend views.
1. Start Revit and open the Revit 1-1_XX project which you created as the first assignment in the Level one Revit Architecture course. From the Create panel on the View tab pick the Legend tool from the Legend flyout. Call the new view Wall Legend and set the scale to $\frac{3}{4}"=1'-0"$. Pick OK.
 2. From the project browser expand the Families Category and then open the Walls / Basic Walls Category. Pick the Exterior – Brick and CMU on MTL Stud and drag it into the empty view. Pick a point to place the sample.
 3. Select the wall sample and copy it to a clear space above the first version. Pick the copied wall and in the Views pulldown on the Options bar, pick Section. Arrange the sample so there is enough space between the two versions to add a piece of text to label the wall type as “Type – W1” and then, on a second line, “Exterior – Brick and CMU on MTL Stud”.
 4. From the Detail Panel on the Annotate tab of the Ribbon, choose the Legend Component tool from the Component flyout. Use the family drop down on the Options bar to find the Basic Wall: Interior – 4-7/8” Partition (1Hr). Add two samples showing a Floor Plan view and a Section view and align them to the right of the W1 wall type. Copy and edit the text label to read, “Type W2” and “Interior – 5/8” GWB on both sides MTL Stud”.
 5. Switch to Sheet A-10 and add the Legend View to the lower half of the sheet below the Door Schedule which you added in the previous class. Activate the view and copy the W2 samples and text to the right. Pick the copied samples and in the family pulldown assign a foundation wall type and edit the text to W3 – Foundation – Poured Concrete. Deactivate the view.
 6. Switch to the First Floor view. All of the doors were tagged on placement but when we added the windows, the tag on placement option was not enabled. From the Annotate tab on the Ribbon choose the Tag by Category tool and pick a Window to add a tag.

7. The first window tag should still be selected. Try modifying the orientation to vertical and then back to horizontal via the Options bar. Toggle the leader off and then back on. Try dragging the move arrow on the tag to reposition it. Adjust the control on the leader to create a horizontal landing line. Change the leader option from Attached End to Free End. Drag the leader end to the middle of the glazing line on the window and then adjust the landing line again. Turn the leader off and move the tag in until it touches the window opening.
8. From the Tag panel on the Annotate tab, choose Tag All. Scroll down and select the Window tag category. Clear the Leader option if it is selected and pick Apply and then OK. Zoom back and confirm that all windows in the view have now been tagged. If tags are overlapping dim extension lines, move the tags to one side of the line.
9. Zoom in around the lower right corner of the building where you can see the two different sizes of windows in use. Pick one of the tags for a larger window and then pick the text to edit the value. Set it to "A". Confirm that you will be assigning the change to multiple instances of that type.
10. Select one of the smaller windows and edit its Type Properties. Change the Type mark value to "B" and then pick OK. All of the smaller window's tags should now show the new value. Pick one of the room tags for an Office. Highlight the text and change the number. These tags are referencing an Instance parameter instead of a Type parameter so only the selected tag will be modified. Door tags also reference an Instance parameter for their "Mark" value.
11. Pick one of the Window tags and choose Edit Family to open it in the Family Editor. Choose Save As and create a new family called Window Mark. Pick the sample text and choose Edit Label from the Ribbon or Properties palette. From the List of Category parameters, double-click the Mark parameter to move it into the Label Parameters pane. Pick the Type Mark parameter and choose the Remove parameter button. Pick Apply and OK. Choose the Load into project button.
12. Select one of the window tags and in the Type Selector switch it to Window Mark. Pick the Window and in the Instance properties set the Mark value to 1.

13. Pick one of the other Type Mark window tags and type SA to select all instances. Change the Type selector to Window Mark and all of the tags will show unique values. Pick one of the tags and choose Edit Family again. Zoom back a bit and then select and copy the hexagon as well as the label so you have two sets of each arranged one above the other. Pick the bottom label and choose Edit Label. Remove the Mark parameter and add a Type Mark parameter to replace it. Pick Ok and then use Save As to create a new family called Window Mark 2. Load into the Project.
14. Pick one of the window tags and type SA to select all. In the Type Selector set the new Window Mark-2 tag to be assigned. Toggle the type selector between the three loaded window tag types to see the various information we can now display with the tags. If you use the two mark option, you may need to adjust the placement for the tags to ensure they all read clearly and do not overlap the window or extension lines.
15. Pick one of the Room Tags and toggle the Type selector to Room Tag with Area. Choose Edit Family. This family includes 4 separate labels, two of which are stacked on top of each other. Pick one of the stacked labels and then choose the Associate parameter button by the Visible parameter in the Instance properties. Pick Cancel without making any changes. Open the Family Types dialog and view the available types and their corresponding Yes/No visibility parameters. Close the dialog without making any changes.
16. Pick the Room Name label and choose Edit Type. This type is called Bold 1/8" and it is only assigned to the Room Name. The other labels use the 1/8" type. Set the Background to Opaque and then pick Ok to assign the change. Choose the Load into Project tool and then confirm that you wish to overwrite the current version. All of the Room names should now display an opaque background and will mask the floor tiles.
17. Pick one of the desks and open the Type properties dialog. Assign the the Type Mark value as "Desk" and pick OK. From the Annotate tab choose the Tag by Category tool and then select one of the Desks. You will be prompted to load a tag for the furniture category. Open the Annotations / Architectural category and choose the Furniture tag. Pick Open to load the tag into the project. Clear the leader option, set the type to Furniture Tag standard and position the tag in the middle of the desk.

18. Choose the Tag All Not Tagged tool and select the Furniture Tag Standard option. Choose Apply and then pick Ok. All Desks should now show a label. If you have any other elements in the Furniture category such as the Meeting Room Table and nested chairs, they will display a ? indicating that the Type Mark parameter has not been assigned in those families. You can select the table and edit the Type properties to assign a value.
19. To select the nested chairs in the table family use Tab Select and then edit the Type Mark parameter. Alternatively, delete the tags on the chairs. Choose the Material Tag tool on the Tag panel and then pick a point inside the brick veneer component on the Exterior Wall. Pick two more points to drag out a leader and landing line and then pick the tag value to highlight it and add the text as "Brick Veneer".
20. Select the Material tag and then pick the control point at the end of the leader line and drag it over the Metal Stud component in the Wall. The Tag value changes to a ? again. Pick the tag value and set it to "Metal Stud".
21. Pick the end of the material tag leader and drag it back to the Brick Veneer component to have it update automatically. With the tag still selected , type CS to create similar and float your cursor over the various components in the wall. The tag value will change dynamically between Metal Stud, Brick Veneer, and a question mark for the unassigned components.
22. Switch to the Wall Section W1 view and zoom in to the section of wall between the first and second floor. Pick the Window and open the Type Properties. Under Identity Data pick in the Keynote field and then choose the Browse button. In the Keynotes dialog, open Division 08 and select the 08 52 00 Wood Windows keynote. Pick Ok and then Ok again.
23. From the Keynote flyout on the tag panel, choose Element Keynote. On the options bar enable the Leader option and set it to Free End. Pick a point on the Window and then pick two more points to drag out a leader and landing line. The Keynote will appear automatically since it has already been assigned in the Type properties for the Window element.
24. Copy the keynote and leader twice so that all three leaders are still pointing to the window. Use the Type selector to show one version with a Number, one with a boxed number, and one with the text description.

25. Pick the lower of the three tags and drag the leader point down to touch the stone sill section in the exterior wall below the window. The tag value does not update. With the tag still selected, choose the Pick New Host button on the Host panel and then pick the stone sill. Note that the entire wall is highlighted when you pick the host and the keynote value changes to a ?. Pick the question mark to open the keynotes dialog and then select the keynote 04 20 00.B3 Cast Stone Sill. Pick OK.
26. Select the upper of the two leaders which are still assigned to the window. Drag the leader endpoint up to the brick veneer above the window. The keynote value will change. Set the type selector to Keynote Text and you will see that note is also for a Cast Stone Sill. Pick the Wall and open its Type Properties. Note that the keynote is already assigned as it was specified for the sill. Element keynotes are best for single component objects. If you wish to keynote individual components within an assembly such as a Wall or a Floor, you should use Material Keynotes instead. Delete the keynote value for the wall and pick Ok. Delete the two element keynotes which now show a ? symbol for their value.
27. Switch to the Detail View Section thro' Floor at Wall. Pick the wall and choose Edit Type and then Edit Structure. All of the components have materials assigned. Pick in the Masonry-Brick material field and then pick the Browse button to open the Materials dialog. Select the identity tab and then pick the browse button by the keynote field. Open the Masonry Division 04 and then select the keynote 04 21 00.A1 Standard Brick – 3/8" Joint. Pick Ok and apply.
28. Pick the Wood – Sheathing – Plywood component in the Material listing and open the Materials dialog again. Switch to the Identity tab and set the Keynote value to Division 06 with the specific note as 06 16 00.D1 Plywood Sheathing. Pick Apply and OK to assign the keynote, save the changes to the Wall type and close the Type properties dialog.
29. From the keynote flyout, choose the Material Keynote tool. Pick a point in the brick veneer and add the leader. Add a second material keynote to the Plywood component in the wall. Pick one of the keynotes and drag the leader end to another component to see how the values dynamically update relative to the material below the leader.

30. Add a material keynote to the plywood component in the Floor Assembly. Because the plywood in the floor assembly references the same Material as the plywood in the Wall type, the keynote is also the same and will be automatically applied.
31. Add a material keynote to the Metal stud component. Because this material does not yet have a keynote assigned, the Keynotes dialog will open automatically and allow you to select and appropriate keynote. From Division 05, choose 05 41 00.A8 6" Metal Stud and pick Ok.
32. Add material keynotes to the finish wood flooring (09 64 00.B2), the wood I joists (06 17 00.C1), and the interior finish on the wall (09 29 00.D1). Set all material keynotes to display only the keynote numbers.
33. From the View tab on the Ribbon choose the Keynote Legend tool from the Legends flyout. Accept the defaults for the view name and the Legend properties. Adjust the widths of the two columns as required to view the key values and text.
34. Switch to the A-10 Schedules sheet view. Drag and drop the Keynote Legend view from the Project Browser on to the sheet. Adjust the legend table width and column widths as required. Modify the formatting and appearance settings for the Legend view to finetune the appearance as we did with the Schedule views in the previous lesson.
35. Save and close all files.